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AUTOMOTIVE COMPONENT VALUE CHAIN OVERVIEW

Market Justification and Strategies for Domestic Component Market Upgrading

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ACRONYMS AND ABBREVIATIONS

ASBEKINDO	Asosiasi Bengkel Kendaraan Indonesia
ATPM	Agen Tunggal Pemegang Merk
BDS	Business Development Service Provider
BSN	Badan Standar Nasional
BTMP	Badan Termodinamika Motor Propulsi
IATO	Ikatan Ahli Teknik Otomotif
ISO/TS	International Organization for Standardization/ Technical Specification
JASO	Japanese Automotive Standards Organization
JIS	Japanese Industrial Standards
KAN	Komite Akreditasi Nasional
LUK	Lembaga Uji Konstruksi
LSPro	Lembaga Sertifikasi Produk
REM	Replacement Equipment Manufacturer Or Replacement Equipment Market
SAE	Society of Automotive Engineers
SNI	Standar Nasional Indonesia
SOI	Sentra Otomotif Indonesia
OEM	Original Equipment Manufacturer Or Original Equipment Market
QCD	Quality-Cost-Delivery

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I. EXECUTIVE SUMMARY

Indonesia's automotive component industry is one of the fastest growing and most valuable in the country. It includes two- and four-wheel vehicles and has among the strongest value chains of any industry in Indonesia. Historically, foreign manufacturers such as Honda, Yamaha, and Suzuki have been the dominant industry drivers, commanding the highest-value segments of the domestic and export vehicle assembly and replacement component markets. However, since the 1998 financial crisis there has been steady growth in domestic demand for mid-value components (especially motorcycle parts) and the market has matured as customers have come to demand more product choices and more competitive prices. These factors have created many market entry opportunities.

To meet this ever-growing demand many domestic small to medium enterprises (SMEs) have entered the market. This has expanded an already thriving domestic aftermarket for non-original parts and components, dominated by hyper-price sensitive, relatively low-quality, non-branded goods. This aftermarket, supplied primarily by small repair shop retailers, thrives as an alternative for customers who do not want, or cannot afford, high-quality genuine branded parts.

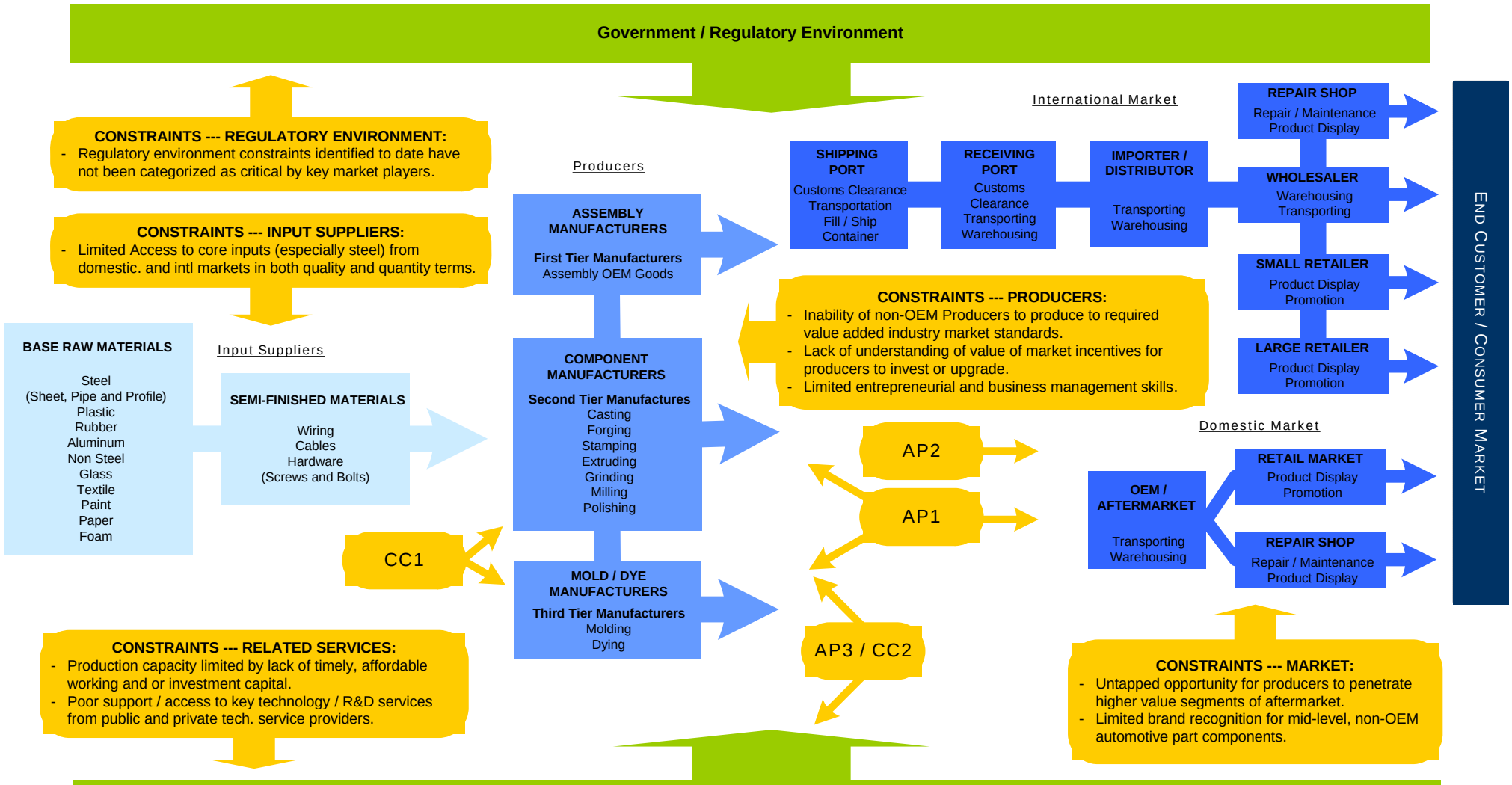
The expanded market presence of low-quality, cut-rate, imported parts has forced down the overall value for the most common and fastest selling parts, resulting in Indonesian second and third-tier component manufacturers to lose their ability to compete in price in the bottom tier of the aftermarket. Further, they cannot compete head-to-head with first-tier manufacturers for the genuine branded parts market because of quality issues and lack of economy of scale. As a result of these market conditions, coupled with local customers demanding a greater variety of competitively priced quality products, the domestic market is reacting accordingly. A nascent mid-value domestic aftermarket segment has sprung up, pioneered by brands and franchises such as Indoparts, Auto Bridal, Sakura, and FAST.

SENADA has identified this segment as a prime end-market opportunity that could be leveraged to increase the competitiveness of second and third-tier automotive component manufacturers. This report details three ***Second and Third-Tier Automotive Component Supplier Upgrading Models*** that SENADA launched in June 2007. The models utilize industry-based brands and seals of quality and increase downstream technology transfer to upgrade firms and drive penetration of select higher value parts sold in this new mid-value market.

SENADA's models aim to upgrade smaller firms, which is vital to the success of this systemic market shift. This will be accomplished by developing and strengthening critical market incentives between producers, business development service (BDS) providers, associations, and wholesalers and service stations. SENADA will facilitate the models, identify and select partners, build linkages and market relationships, provide technical assistance, and, if and where necessary, strategically subsidize financial risk. SENADA will not undermine market transactions by participating in the upgrading models directly.

The ***Second and Third-Tier Automotive Component Supplier Upgrading Initiative*** is just one SENADA activity currently being implemented to increase competitiveness of the Indonesian automotive component value chain. Figure 1 on the next page highlights where this initiative will affect the automotive component industry value chain (indicated by the symbol "AP1"), and how it relates to other SENADA auto part initiatives currently under consideration.

AUTOMOTIVE PARTS VALUE CHAIN OVERVIEW: CRITICAL CONSTRAINTS IDENTIFIED AND SENADA IVC ACTIVITIES



Key

- Input Suppliers
- Producers
- Market
- Related Services And Regulatory Environment
- Constraints / Opportunities / IVC Activities

AP1 – **2nd / 3rd Tier Supplier Upgrading Initiative.** Mid-market segmentation through branding / seal of quality.
AP2 – **"Upgrading Model" Market Socialization.** Market value added benefits and value of AP1 upgrading models.
AP3 – **BDS-Producer Linkages Development Initiative.** Increase access to critical technical upgrading skills.
CC1 – **Improve proficiency of, and access to, critical business management skills.**
CC2 – **Improve producers access to bank credit, especially working and investment capital.**

SENADA Autopart IVC Activities

II. MARKET OVERVIEW

The domestic component market in Indonesia poses a prime opportunity for competitiveness improvement and upgrading. SENADA chose to focus on the domestic end-market first, rather than the export market, because of the domestic market's historical economic importance to Indonesia, strong recent domestic market growth, and new domestic mid-market segmentation opportunities. Much of this domestic growth is due to general market liberalization and a shift in the value chain governance structure from a more integrated or hierarchical, to a more captive or balanced market with upstream demand coming from an expanding number of lead firms and a burgeoning aftermarket. [1]

Growth and opportunities in the export market are also worth noting. The export market for components has expanded rapidly since the crisis in 1998 — mostly from the favorable effects of the major rupiah depreciation rather than increased industrial competitiveness. Although this comparative advantage is eroding with the subsequent rise of the rupiah and major export expansion regionally, there are numerous export market opportunities that SENADA is investigating. The domestic upgrading models described in this report could serve as stepping stones for the eventual expansion into the export market. If successful, SENADA may develop an export promotion strategy by the end of 2007.

2.1 COMPONENT INDUSTRY MARKET AND VALUE CHAIN OVERVIEW

Market Overview: The automotive industry, including assembly, body, and component parts, is one of the oldest, largest, and most significant in Indonesia. The market continues to recover from the 1998 crisis with a rising number of firms (approximately 445 as of 2005[2]); expanding work force (an estimated 185,000 to 204,596, with approximately 75,000 to 100,000 workers in second and third-tier manufacturing); and strong growth in value-added investment, and expenditures for research and human resource development.[3]

Domestic market demand has historically been the driver for the automotive assembly and component industries.[4] This continues today as the domestic component market has been sustained by strong growth in motorcycle and car assembly markets, as well as subsequent growth in the replacement parts market.

Specific attention should be given to the rapidly growing domestic demand for motorcycles. In rural and urban areas, the motorcycle has emerged as a viable alternative method of transportation due to its affordability, loan support from financing companies[5], and its fuel efficiency.[6] Table 1 shows the strong increase in domestic demand for motor vehicles (cars and motorcycles) assembled in Indonesia for the period 2001-2006.

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1 Please refer to Appendix 2 for more information and explanation on the different levels of value chain governance and how they affect industry value chain relationships

2 2005 data Out of the 445, approximately 57 are from the car assembly and body industry, 77 in motorcycle assembly industry, and 350 in the component industry *"Commodity Profile Series - Indonesian Automotive Components. A Trade Research Publication of the Trade Research and Development Agency. January 2007. Ministry of Trade - Indonesia."*

3 This includes local and foreign direct investment 2005 saw more than Rp 13 9 trillion in domestic investment alone, broken down into approximately Rp 3 5 trillion in cars, Rp 3 0 trillion in motorcycles, and Rp 7 5 trillion in automotive components) Ibid

4 Beginning in the 1960s, Indonesian economic policy favored and protected the domestic automotive market through local deletion/content laws and import restrictions *Aswicahyono, Atje, and Wie, "Indonesia's Industrial Competitiveness: A Study of the Garment, Auto Part and Electronic Component Industries. Development Economics Research Group, The World Bank. Jakarta, March 2005.*

5 On average and for most financing schemes, borrowers need only provide a down payment of Rp 500,000

6 "*Indonesia's Competitiveness Environment - Current Conditions. DAI Publication - March 2006. SENADA Competitiveness Program/USAID".*

Table 1 – Indonesian Car and Motorcycle Production From 2001-2006.

(Units)	2001	2002	2003	2004	2005	2006
Cars						
Toyota	79,554	84,313	100,860	131,940	182,767	123,703
Mitsubishi	66,106	75,390	77,104	89,590	89,158	47,023
Suzuki	53,190	63,515	70,154	82,242	87,274	44,760
Daihatsu	31,299	20,288	21,698	47,621	53,750	33,021
Honda	11,423	13,113	21,650	46,500	48,762	30,000
Isuzu	31,299	26,335	19,779	23,457	25,010	16,605
Others	26,758	34,988	43,089	61,945	47,120	23,771
Total	**299,629**	**317,942**	**354,334**	**483,295**	**533,841**	**318,883**
Motorcycles						
Honda	932,178	1,437,068	1,576,694	2,035,711	2,648,190	2,340,168
Suzuki	294,037	440,579	583,944	844,232	1,091,962	568,041
Kawasaki	45,292	43,865	60,732	105,057	74,128	33,686
Yamaha	299,074	352,145	568,159	874,388	1,224,595	1,458,561
Others	5,207	13,807	20,655	28,287	35,329	26,379
Total	**1,575,788**	**2,287,464**	**2,810,184**	**3,887,675**	**5,074,204**	**4,426,835**

As the domestic car and motorcycle markets continue to expand to meet growing demand, so to will the demand for reliable manufacturers that can produce high quality products, competitive pricing, and timely delivery. Although the automotive component sector has been constrained for decades by failed protectionist policies, and most recently by a large influx of foreign competition, this industry sector is primed to meet increased domestic demand with increased domestic production of high quality parts and components.

Industry Value Chain Overview. Figure 2 shows Indonesia's two primary end markets for automotive domestic components: (1) the original equipment market (OEM) for components produced for the domestic and export assembly industry; and (2) the aftermarket, also referred to as replacement equipment market (REM) for domestic and export maintenance and replacement parts. The automotive components can be further divided into six major components categories: (a) engine parts, (b) electrical parts, (c) drive transmission/operating unit parts, (d) suspension parts, (e) chassis parts, and (f) car body parts.

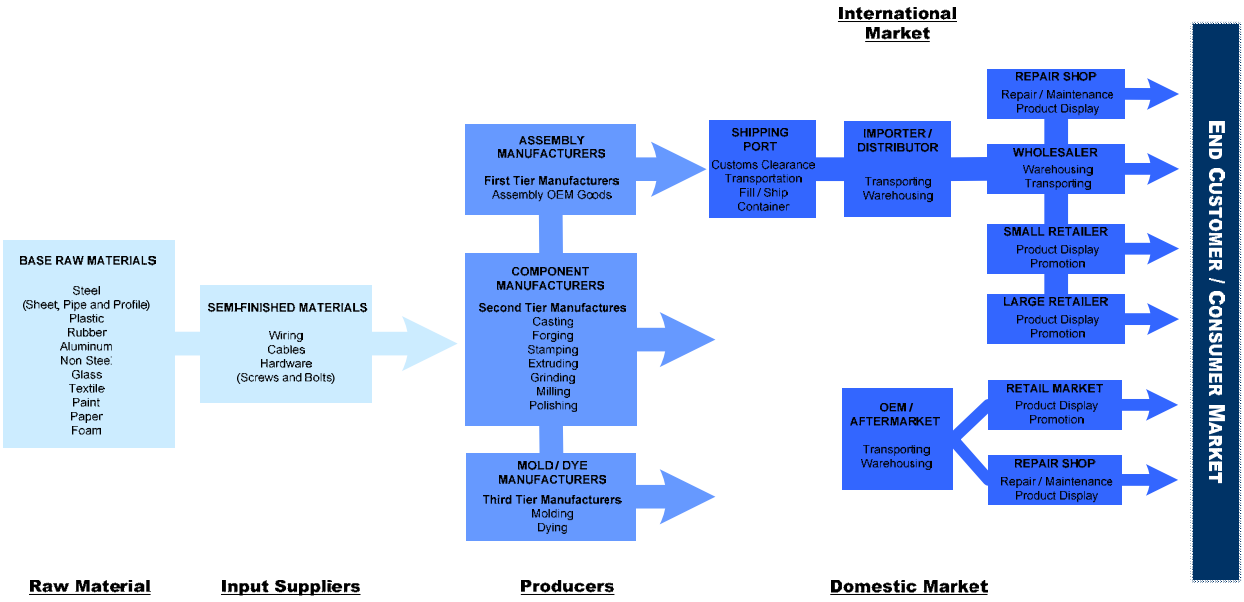


Figure 2 - Overview Of The Automotive Component Value Chain.

First-tier or OEM manufacturers (also known in the market as, "assembly manufacturers") dominate the market for branded or "genuine" automotive and motorcycle parts. As expected, OEM producers concentrate on highest-value, fast moving products, including:

- Electrical systems (batteries, battery cables, wiring harnesses, starters, halogen lamps, etc.),
- Engine systems (air, oil, and fuel filters, valves, gaskets, pistons, etc.),
- Brake systems (brake shoes, pads, and linings, disc brakes, etc.),
- Cooling systems (air conditioning components, radiators, etc.),
- Body and frame components (chassis, doors, windows, etc.),
- Suspension systems (shock absorbers, front forks, dampers, etc.), and
- A wide variety of plastic, rubber, and forged steel products.

First-tier component suppliers are typically joint venture or foreign investment companies (e.g. ASTRA-Toyota, ASTRA-Nissan, or Indopart-Sesuki) that have certified quality-cost-delivery (QCD) processes and technology. The majority of these joint ventures are under control of a Japanese-style *keiretsu* conglomerates (e.g. ASTRA International or Indomobil Sukses Makmur) made up of joint venture assembly firm principals. These ventures are primarily concerned with producing parts for the first-tier assembly market (cars and motorcycles), and are sold under known OEM brands (e.g. GS Accu, Showa, and FSCM). First-tier suppliers also sell genuine parts directly to consumers though certified first-tier wholesalers, and even in the aftermarket through subsidiaries. This structure is illustrated below, showing the ASTRA group and its participating first-tier suppliers as an example.

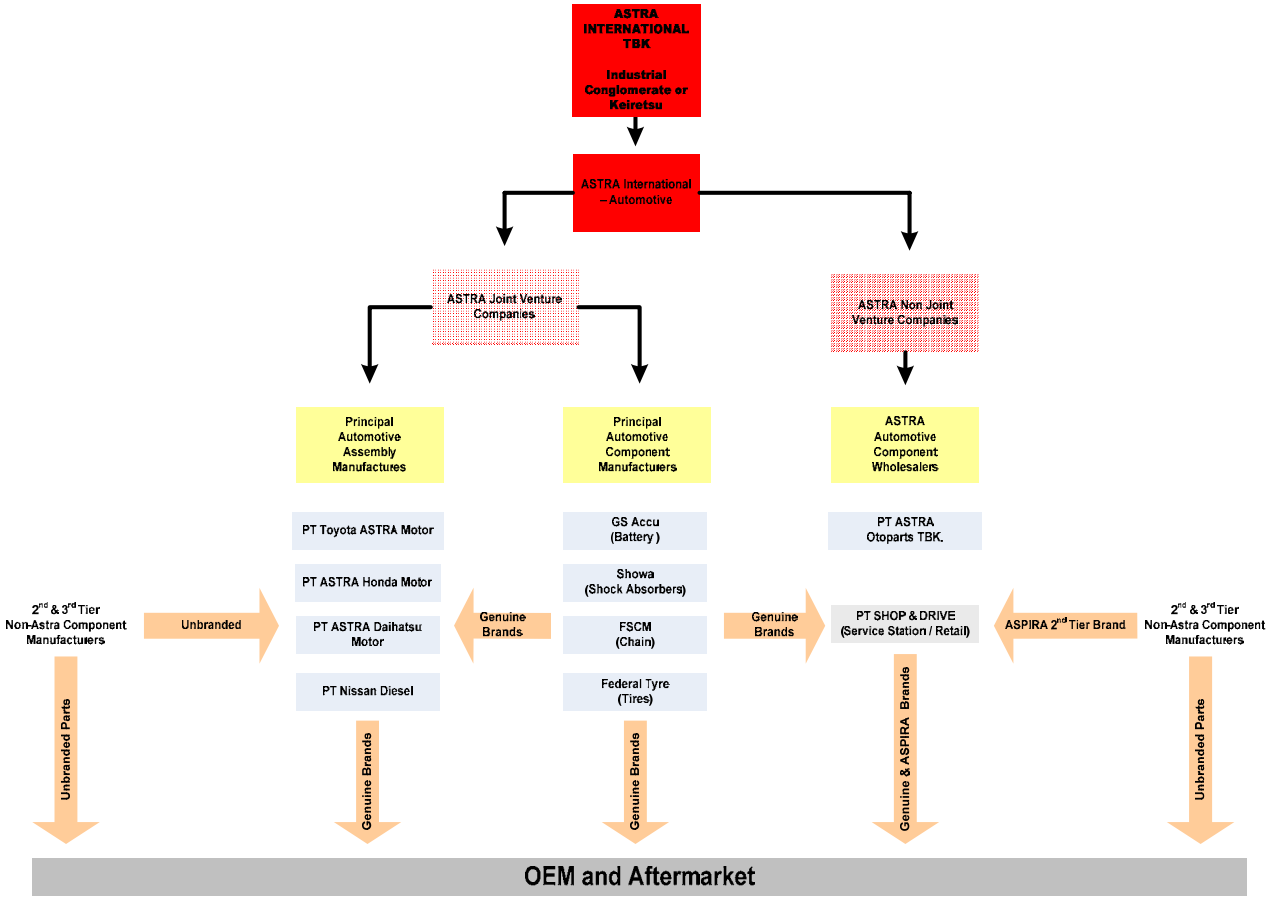


Figure 3 - ASTRA International TBK. (Please note that there are more principal "Automotive Component Wholesalers" than listed above.)

Meanwhile, second-tier suppliers capable of complying with strict QCD requirements also play an important role in assisting first-tier firms to meet their production demands. However, because most second-tier suppliers specialize in particular areas of manufacturing, they are unable to produce all parts necessary for a single automobile or motorcycle. Therefore, first-tier suppliers typically contract several second-tier manufacturers simultaneously to produce all of the parts and components required to assemble entire vehicles. This strategy aims to maximize product quality and production efficiency.

Interestingly, in addition to meeting their contract obligations with their first-tier suppliers, second-tier suppliers are beginning to branch out independent of first-tier partners and produce a growing number of parts for the aftermarket. These parts are sold through OEM and non-OEM second-tier wholesalers and are marketed as branded and unbranded. Examples of OEM brands include ASPIRA, Indoparts, or Shop-n-Drive, while examples of non-OEM brands include Sakura or Auto Diesel Radiators.

There are plethora examples of how the automotive manufacturing industry in Indonesia requires the involvement of large, medium, and small enterprises. First-tier firms usually provide their second-tier manufacturing partners with the raw materials necessary for them to produce the parts or components they have been contracted to deliver. In addition, automotive component production generally involves the use of many different dies and molds, which second-tier manufacturers usually do not fabricate. Instead, they often outsource this work to third-tier manufacturers (e.g. Cipta Sinergi Manufacturing). And at this level, there are many SMEs involved.

The most expensive components and parts are usually distributed through certified dealers and authorized repair shop networks of Automotive Brand Sole Agents (a.k.a. ATPMs). Less expensive, lower-quality parts and components made by domestic second and third-tier non-OEM manufacturers are usually sold through small retailers or service stations.

2.2 OPPORTUNITIES IN TARGETING SECOND AND THIRD-TIER MANUFACTURERS

Although second and third-tier component manufacturers do not produce all parts necessary for an entire car or motorcycle, their increasing ability to produce a wide variety of high-value components with targeted product specifications, their sheer number (approximately 350 of second/third-tier suppliers currently in operation), and their direct access to the domestic aftermarket, make them a formidable potential market force. Second and third-tier manufacturers also have a comparative advantage in product specialization, especially for select market niches identified for high-value, competitive products that are not necessarily dominated by first-tier firms.

Furthermore, the domestic automotive component industry value chain's governance structure becomes more favorable for smaller producers as it continues to move from hierarchical, to direct, to even-balanced (multiple buyers from multiple market segments). This value chain governance shift results in an increased number of market opportunities within the domestic aftermarket where smaller producers can find retail outlets for their products.[7]

Despite these new market opportunities, second and third-tier manufacturers are not able to instantaneously take advantage of them. They remain uncompetitive given their limited investment of resources (time, money, and personnel) on upgrading processes, equipment, technology and

[7] Please refer to Appendix 2 for more information and explanation on the different levels of value chain governance and how they affect industry value chain relationships

management systems to meet higher product quality demands. There is also a lack of understanding of the link between higher quality production and mid-market segmentation. As mentioned above, there are a select group of suppliers that operate at QCD standards levels, but the majority only uses such high standards in their manufacturing if necessary for an OEM contract.

If selling directly to the aftermarket, most second and third-tier manufacturers still instinctually target the hyper-price competitive bottom tier of the market, even if they know the mid-market is now available, and continue to focus on manufacturing as cheaply as possible (i.e. only the most basic standards being used, if any). Thus, most smaller producers are not yet clear about the important linkages between producing at higher quality standards and mid-market segmentation, nor are they able to realize of how tightly these new markets are tied to the necessity of upgrading.[8]

Second and third-tier suppliers therefore have significant aftermarket potential and, based on current market analysis, have the most to gain from upgrading. If successful, SENADA's models described later in this report should be able to identify a portion of the second and third-tier manufacturing sector that is willing and able to upgrade production capacity to a higher value market segment. This upgrading will subsequently result in higher, more competitive products — both domestically and abroad.

2.3 Opportunities in Domestic Mid-Market Aftermarket Segmentation

The domestic aftermarket thrives because it provides customers with alternatives to expensive, branded parts. Chinese, Taiwanese, Thai, and Vietnamese imports are flooding the lower echelons of Indonesia's aftermarket. This, combined with their cut-rate prices, has forced the overall price for the most common and fast moving goods lower. Figure 5 illustrates the large market growth of imported components since 1998 (in millions of USD).[9]

Figure 4 - Sidewalk sales for imported cut-rate components.

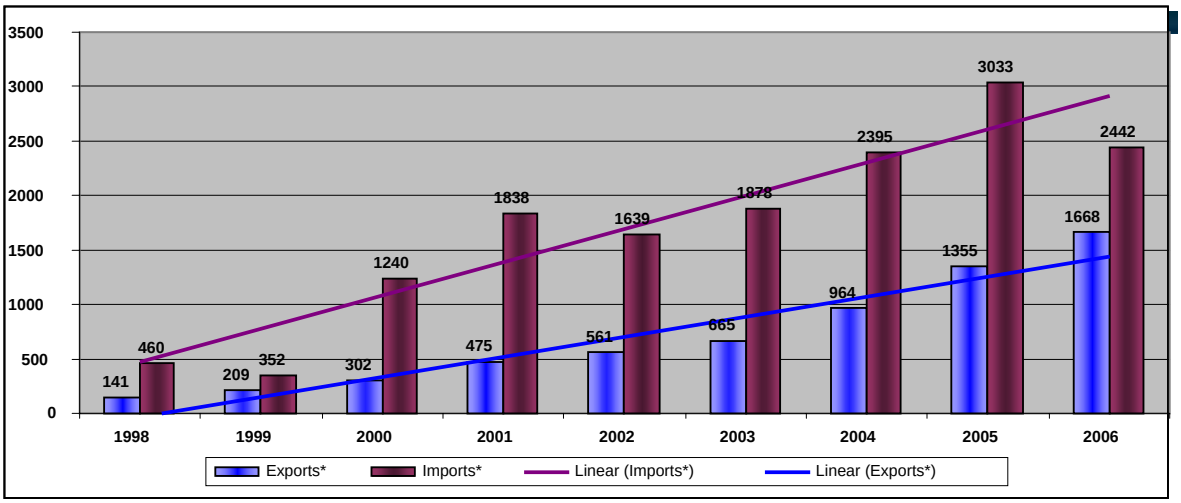


Figure 5 - Automotive component import and export trends (1998-2006).

[8] Data gathered from 30 second and third-tier component manufacturer surveys conducted in March and April 2007

[9] *Pusat Data dan Informasi, Department Perindustrian dan Perdagangan R.I., Jakarta* (Center for Data and Information, Department of Industry and Trade, Jakarta), June 2007

Given the increase in cheap imports, Indonesian second and third-tier component manufacturers are losing their ability to compete on price at the bottom-value level of the aftermarket. Therefore, these firms have started to move into the mid-value domestic aftermarket segments. This market niche switch has been pioneered by brands and franchises such as Indoparts, FAST, Sakura, and Shop-n-Drive. This new segment (around 60 to 80 percent of OEM value) is an important market opportunity for second and third-tier producers because it is high value enough to relieve market pressures from hyper-price sensitive imports, and not too high, where producers will have to compete head-to-head with first-tier OEM producers.

Here is a comparison of valve sets and dumper clutches. The cost of goods sold (COGS), or manufacturing cost, for a valve set is between Rp. 7-10,000 depending on quality standards used.[10] The retail market value of the part will range from an OEM/genuine part cost of Rp. 52,000 to the lowest, unbranded aftermarket price of Rp. 14,000. Mid-market products will target around 60-80 percent of the OEM price (or about Rp. 34,000) and be produced at 70-100 percent of OEM quality. For damper clutches, the story is similar. The COGS is around Rp. 3-5,000 per unit.[11] In the OEM market, the retail price is Rp. 17,000, and the lowest aftermarket price is Rp. 7,000. Again, the mid-market price will be approximately Rp. 13,000, produced at a 70-100 percent quality level.

Table 2 – Cost/Value Comparison for Valve Sets and Damper Clutches.

Product Name	BRAND	Retail Price
VALVE SET	OEM (Genuine Part)	Rp 52,000
	ASPIRA, FEDERAL, INDOPART	Rp 34,400
COGS	TARGET MARKET	Target Price
Rp. 7000-10,000		
	Imported Parts / Non Brand	Rp 14,000
Product Name	**BRAND**	Retail Price
DAMPER CLUTCH	OEM (Genuine Part)	Rp 17,600
	ASPIRA, FEDERAL, INDOPART	Rp 13,200
COGS	TARGET MARKET	Target Price
Rp. 3000-5000		
	Imported Parts / Non Brand	Rp 7,000

2.4 OPPORTUNITIES IN NON-OEM PARTS

Genuine parts distributed through dealers and ATPM authorized repair shop networks are typically sold under well-known, first-tier OEM brands. There is a general market trend that owners of motorized vehicles have inclination to use genuine OEM parts for the first three years of their ownership of new vehicles. This corresponds with typical warranty periods offered by the OEM retailers. Once warranty periods expire, customers typically switch to less-expensive, non-OEM parts in subsequent years.

To give this trend a market perspective, for 2007 alone, using the general market trends as the basis, there is the potential for 10.5 million owners of 2-wheeled vehicles, and 1.5 million owners of four-wheeled vehicles to switch from the OEM parts market, to the non-OEM parts market. The market has responded to this trend and this is one of the main reasons the demand for domestic and imported non-OEM parts has increased so much over the past five years.[11]

[10] The small difference in base production costs between aftermarket and OEM quality can be misleading COGS only takes into account the actual production costs, not other costs, related to upgrading, investment, equipment, accreditation, auditing, branding, marketing, etc that are significantly higher if a firm is producing to sell to the OEM market, rather than just to the aftermarket

[11] 2005 data *"Commodity Profile Series - Indonesian Automotive Components. A Trade Research Publication of the Trade Research and Development Agency. January 2007. Ministry of Trade - Indonesia."*

The aftermarket has also grown rapidly because second and third-tier suppliers, along with first-tier suppliers who produce aftermarket products, have slowly begun to standardize quality for parts sold at the aftermarket, especially for the fastest moving parts (e.g. Sakura oil filters).These mid-level, fast moving products are the basis of the higher value mid-market as consumers have become more aware of, and concerned with, cost, quality, reliability, and safety. SENADA analyses targeted non-OEM goods for the domestic market as a prime opportunity that can be accelerated if more and more suppliers can produce, and guarantee, more and more parts with standardized, end-market level customer driven quality.

Targeting the right group of non-OEM parts that have the highest opportunity for mid-market segmentation and demand is difficult, but, if done correctly, it will have a significant impact on the upgrading of second and third-tier manufacturers. Therefore, parts that have the best opportunity for segmentation at the highest mid-market level should meet the following criteria.

- *Fast Moving* — Part is replaced within three months or 10,000 km.
- *High Value* — Part offers relatively high profit margin or high volume so that profit per given unit of time is attractive to all players in value chain.
- *Potential Market* — Currently there are a limited number of mid-market players producing the parts, so the opportunity to penetrate the market should be relatively easy.
- *Engineering Capability* — The producers' ability to manufacture parts according to mid-value, mid-quality specifications is high.
- *Production Capability* — The producers' ability to manufacture parts in sufficient quantities using an existing average-quality management system is high

SENADA's initial market analysis has identified the products listed in Table 3 as examples of parts that meet the above criteria. These parts can be selected as the initial target markets for mid-value segmentation detailed in the SENADA upgrade models.

TWO-WHEELED VEHICLE PARTS	FOUR-WHEELED VEHICLE PARTS
Damper Clutches Brake Drum Seals Fuel Filters Air Filters Brake Pads Brake Shoes Valve Sets Sprockets Gasket Sets	Fuel Filters Air Filters Oil Filters Brake Pads Brake Shoes Caliper Brake Kits Gaskets

Table 3 – Automotive parts and components to be targeted in SENADA upgrading models.

2.5 BRANDING AND SEALS OF QUALITY MARKET POTENTIAL

Brand recognition in the automotive component aftermarket is very high, resulting in branded spare parts (OEM and non-OEM) to be the highest demanded and highest valued. This is not necessarily true at the bottom layers of the aftermarket where the consumer is usually only concerned with price. SENADA's analysis suggests that consumers place such a value on branded goods because they perceive brands as an obvious guarantee for quality of the products. Besides exuding confidence in a particular product, brands in the aftermarket also help accelerate decision-making for selecting products because customers tend to be highly uneducated about the specifics of the product in which they are buying. Understanding the product specifications of a pair of

shoes is significantly easier than understanding the product specifications of a spark plug. Therefore, there is a market opportunity for producers that can enter, and produce quality products for, the branded component market.

The high value placed on "brand" and "brand recognition" is a direct result of the high quality of major OEM brands such as Federal Tire or second-tier brands such as ASTRA Otoparts (Aspira), which Indonesian customers have learned to understand, value and respect. Simply due to the historical integrated governance structure of the automotive value chain under ASTRA, and the dominance of the ASTRA International and Indomobil Sukses Makmur brands for so many years, new non-OEM brands that enter the market must clearly understand the connection that "brand" equals "high-value."

This understanding also has to translate to strong attention to product standards, production processes, and accreditation strategies for those brands because customers are beginning to demand a guarantee of quality and reliability. The mid-value component market is not yet mature, and there are only a half dozen major brands recognized on the market. There is not yet enough competition for retailers and producers to simply put a new brand on a cheap quality good and revaluate it as mid-market. Consumers know who is out there and what to expect.

Branded goods are also favored by retailers due to brand awareness, price sensitivity, and demand for quality standardized goods by the typical Indonesian component consumer. The market is such where the end-market retailers, and especially service stations, have a lot of power over what consumers buy, and the brand of the retail outlet is many times synonymous of the brand of the component itself. This market opportunity has led to many service stations developing their own quality brands for select goods, fulfilled by a variety of different suppliers. Brands, in this case, add value at the retail level and producer level. [12]

The use of seals of quality in the domestic automotive component sector in both production and retail for marketing or product segmentation is unheard of in Indonesia. Although used in Indonesia primarily in the food sector (especially in high-value fruits and vegetables, and with Halal foods), domestic component wholesalers and retailers have yet to use seal of qualities as a branding or marketing technique.

In more mature component markets such as those in Japan, Europe, and the United States, the use of seals of quality are prevalent and can be a very flexible marketing and upgrading technique. This is true given they can be used on branded or unbranded goods, and focus on product, process, safety, or just-in-time delivery standards. Major U.S. retailers such as Pep Boys® and Meineke® have used seals of quality for years for a variety of different product lines and SENADA believes it could be a viable cutting-edge mechanism for Indonesian domestic product segmentation, as well.

[12] Data gathered from consumer brand/seal of quality awareness surveys conducted by SENADA in March and April 2007

III. CROSS-CUTTING APPROACHES

Given the complexity of upgrading second and third-tier Indonesian automotive producers to penetrate the mid-market component aftermarket, SENADA is launching three distinct pilot supplier upgrading models. Each model will specifically utilize a mixture of different partners, processes, standards, and mid-market access entry points. The models will test and measure which combinations are most successful in, (1) improving supplier access to the higher value, mid-market domestic aftermarket; or (2) increasing the value of the specific components sold (at producer-wholesaler and wholesaler-market levels).

Although each of our models is distinct in its approach, standards, partners, and market access, the prevailing methodology for all three models is developed around three assumptions:

- First, in the domestic component aftermarket OEM and domestic wholesalers and service stations largely determine price, market access, standards, trends, design, and consumer preferences.
- Second, products based on market-recognized and certifiable industry standards will demand higher market segmentation than products that do not.
- Third, second and third-tier suppliers do not upgrade to higher product or process standards unless the market benefits of the upgrade are measurable and virtually certain.

Given these assumptions, the following cross-cutting assumptions, strategies, and methodologies are found throughout all three models.

3.1 MARKET - PRODUCT - STANDARDS - UPGRADING - CERTIFICATION - MARKET

The following basic methods are followed in each model:

1. First, a market access point (wholesaler or service station) is identified to assist in selecting the high-value, fast moving, common products that have the greatest potential for mid-value, aftermarket segmentation with applied and marketable industry standards.
2. Second, other market actors such as business associations, business service providers, automotive consulting firms, and LSPros (Indonesian product certification bodies) are engaged as potential investors to develop product or process standards for projects that will serve as the basis for a market segmenting seal of quality or brand.
3. Third, industry standard-based seals of quality or brands are rolled out and key second and third-tier producers who have the highest potential for upgrading are identified, standards transferred, and firms upgraded on a fee-basis.
4. Fourth, firms, which have upgraded and are able to produce at the pre-determined industry standard, apply for a seal of quality or brand from a certifying agency (in most cases the business service provider who is the issuer of the brand or seal of quality).
5. Fifth, firms' products are independently certified and receive a seal of quality or brand that gives them special, pre-negotiated market access and pricing with partner wholesalers or service centers. All sponsored industry standard-based seals of quality and brands will be fully marketed to the consumer market and greater value chain, to ensure that the value added is understood, recognized, and priced accordingly.

3.2 FOCUS ON THE MID-MARKET AND MID-VALUE AFTERMARKET

Each model will be focused primarily on the mid-market aftermarket, which SENADA has identified as a prime end-market opportunity that could be leveraged to significantly increase the competitiveness of second and third-tier automotive component manufacturers. Our models aim to upgrade firms and their products through improved production standards, and through branding and product certification. These models will succeed if there is market access for target products, and if market incentives are apparent to partner firms.

Our market research suggests that this domestic mid-value aftermarket will be very responsive to these higher quality branded or seal of quality accredited goods. If a 60 to 80 percent OEM market rate can be secured, the analysis suggests that our models will amply provide the market incentives that will compel firms to upgrade, thus driving penetration of select higher-value parts sold in this new market. At the same time, our model will focus on building and strengthening critical market incentives between second and third-tier producers, BDS providers, business associations and wholesalers and service stations which are vital for this upgrading and resulting systemic market segmentation to occur.

3.3 UPGRADING THROUGH ADOPTION OF PRODUCT AND PROCESS STANDARDS

The use of industry product and process standards to upgrade firms and secure market access is the primary cross-cutting mechanism to be used throughout each model. This mechanism was chosen because the development and implementation of market-based, high-value standards is one of the most effective ways of accelerating integration of second and third-tier firms into higher, more profitable segments in the domestic aftermarket.

Acceleration occurs because adoption of industry-recognized standards and processes forces firms to naturally upgrade skills, equipment, and knowledge. As more and more firms comply with standards and upgrade, the resulting domino effect is standardization of higher production processes standards used throughout a segment of the value chain. This systemic change in firms' behavior, and the resulting increased investment in new technologies and skills, results in an overall reduced cost of production, increased quality, and more efficiency. The market incentives for firms to take the financial risks to upgrade production to the higher standards come from the increased access to markets that will place value on the standards. Value is created as product and process standards are marketed through seals of quality or brands that the firms are upgrading into.

As second and third-tier firms upgrade and integrate higher quality product and process standards into their manufacturing, they also increase their ability to participate in the higher value segments of the production chain. This allows firms to move from lower value, less complex parts with inconsistent quality, to higher value, more complex parts further integrated into a comprehensive production sequence. The figure on the next page illustrates current capacity constraints of smaller manufacturers, which hinder their participation in portions of the component production process.

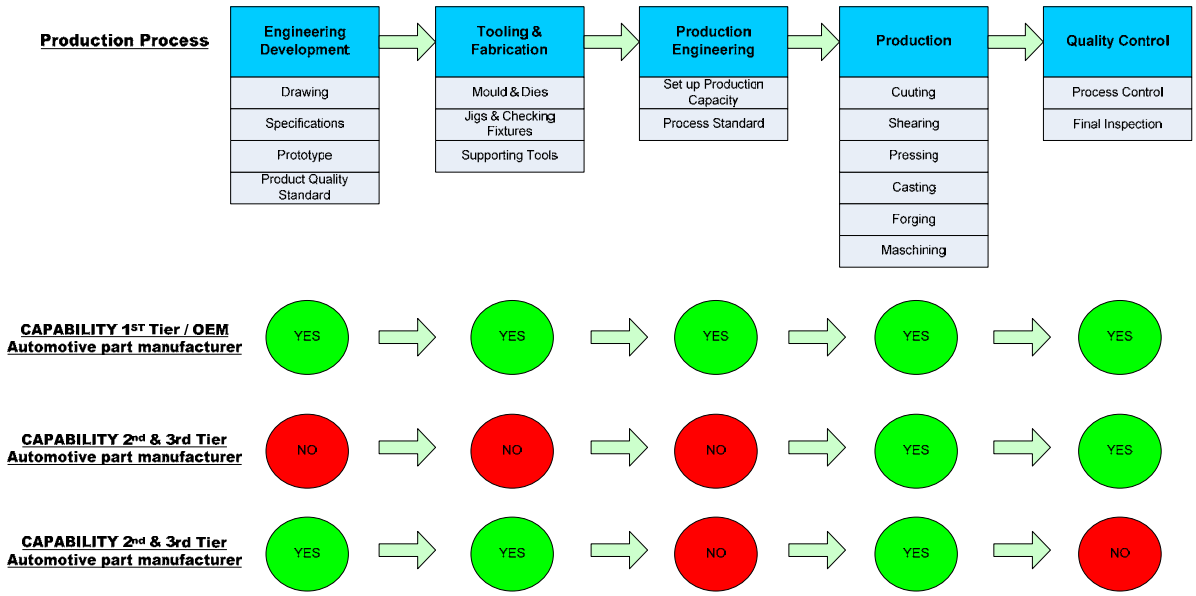


Figure 6 –Process and capacity constraints for domestic manufacturers.

Consequently, each of the models places much emphasis on industry product and process standards because the development and implementation of market based, high valued standards is one of the most effective ways to integrate second and third-tier firms into higher, more profitable segments of the production process. As the models open market opportunities and link more and more suppliers into a higher-valued production sequences, firms will upgrade in design, engineering and other efficient mechanisms to create the products the mid-value aftermarket demands.

3.4 USING SEALS OF QUALITY AND BRANDS TO TRANSFER STANDARDS

The reason many Indonesian second and third-tier producers cite for not adopting standards is not just the cost, but the virtual inability to comprehend the complex, multi-tiered and duplicative world of OEM vs. national standards, product vs. raw material standards, safety vs. product standards, and voluntary vs. compulsory standards. Firms simply are not able to comprehend the differing standards, never mind the potential market value that is associated with them.

The majority of high value standards used throughout the Indonesian automotive industry are developed and imposed by OEM assembly manufacturers or ATPM retailers. In order to be an OEM-component supplier serving primarily the Japanese car manufacturers, suppliers must be able to meet QCD standard manufacturing processes developed by Japan Automotive Standards Organization (JASO) or other national standard-making bodies in the U.S. or Europe. For raw materials, suppliers must meet standards developed by Indonesia's Standar National Indonesia (SNI) as well as standards developed for export markets such as Japan Industrial Standards (JIS) for component manufacturing. There are also two compulsory standards (developed domestically by SNI) for tires and window glass, and an additional 166 voluntary standards for automotive parts developed for a wide variety of reasons and products.

Complex and overlapping standards are confusing to producers and the market alike. In the Indonesian aftermarket, compulsory and voluntary national product standards are virtually unknown to consumers, and only OEM QCD standards are recognized and valued accordingly. For export markets, firms only directly integrated into an export supply chain are knowledgeable about different international standards and only the ones that directly apply to their production.

Simply ignoring standards (the method most employed by firms) is not the answer, and SENADA has designed the models in a way that product and process standards are understandable, transferable, and product specific. We attempt to do this by reducing the burden of keeping fully-versed in all necessary market product and process standards from the smaller firms.

In each model, SENADA will engage a BDS provider to develop a business plan around a brand or seal of quality based on a selection of product/process standards. Standards will be developed and packaged for a pre-selected group of high-value, fast moving common products. Standards selected will include internationally and nationally recognized product and process standards depending on where the end-market of the product is intended to go.

The brand or seal of quality will be priced according to the pre-determined market value it can secure in the end market, and sold to firms as a brand or seal of quality. If a firm wants to upgrade to a particular set of standards sold by the BDS provider, all it has to do is pay a fee, meet the transferred product and process requirements, and get accredited.

3.5 FOCUSING ON END-MARKET OR CONSUMER-BASED STANDARDS

Product and process standards are typically developed for safety or environmental reasons, not specifically for the tastes, trends or concerns of the market or the end-consumer. SENADA's models break from this trend and urge partners to focus on identifying product standards that are based on market or consumer preferences and needs, rather than the specific needs of the government standard making bodies.

For the Indonesian domestic aftermarket, market-based standards will be based on quality assurance, fair price, availability and safety during expected product lifetime. Also, similar to the OEM and QCD, engineering, process and material standards should also be used to determine standard levels, but again, they will be both recognized and valued by the end-market. All chosen standards should clearly target a particular mid-market segment and will be based on already known standards (material, testing, safety or otherwise) that consumers already understand and want.

To ensure this is clearly communicated to the market and the end customer, product/process standards will be packaged as part of a seal of quality or brand launched by a business development service provider. BDS providers selected to launch the brand or seal of quality will be recognized throughout the automotive sector and supported by known accreditation, testing and evaluation bodies. If developed and marketed successfully, the results will be process and product standards that are end-market driven, pertinent, valued and priced accordingly, allowing second and third-tier producers to sell their products at a higher-value segment of the aftermarket.

3.6 UTILIZING CERTIFIED ACCREDITATION, TESTING, AND EVALUATION BODIES

Despite the lack of adopted standards in non-OEM production, there is an ample supply of standards accreditation, testing and evaluation bodies that have been certified by Indonesia's National Accreditation Committee or Komite Akreditasi Nasional (KAN). These entities, known in the industry as Product Certification Bodies or Lembaga Sertifikasi Produk (LSPros), are underutilized by the market. However, they have great capacity to do a wide range of product testing and standards accreditation in their fully equipped laboratories. Second and third-tier firms tend not to utilize LSPro services either because they simply do not know about them, or they misperceive that the costs for testing are prohibitive, or the testing has no market value.

Market access for accredited products cannot be secured if the end-market does not recognize, and place proper market value on, the accreditation of the product and process standards used as the basis for the brand/seal of quality. As such, SENADA is encouraging partnerships between our BDS partners (who are launching the seal of quality/brand) and the KAN approved LSPros. There are currently seventeen LSPros that have been certified by KAN. The following have already expressed strong interest in our model:

- BTMP: Durability, Thermodynamic, Engine and Propulsion Testing/Certification.
- LUK: Strength of Structures Testing.
- ALS: Indonesia: Environmental and Raw Material Testing/Certification.
- SUCOFINDO: Indonesian Auto Repair Certification/ISO Certification.
- INTERTEK: Environmental and Raw Material Testing/Certification.
- PUSTAN: Indonesian Product Standard (SNI) and ISO TS Certification.
- B4T: Center for Materials and Technical Product Testing

Any services BDS providers and LSPro provided in this partnership will be priced based on current market rates, including:

- Supporting product/process standards selection and brand/seal of quality development.
- Providing facilities and laboratories on a fee basis for product testing.
- Serving as the certification/accreditation body that will verify brand or seal of quality product/process standards are being met by the producers.

Providing vital testing/accreditation services to the BDS providers and providing much needed extra revenue streams to the LSPros are major incentives to keep this partnership strong. The partnership will be further strengthened by the increased visibility of the LSPro's efforts to promote higher product standards throughout the industry, thus giving the LSPros more respectability with Indonesian Government and major automotive business associations. Finally, more recognized accreditation bodies also means higher market visibility for the seals of quality/brands, thus increasing the probability that the certified products will secure higher-value market segmentation.

IV. SECOND AND THIRD-TIER SUPPLIER UPGRADING MODELS

SENADA's upgrading models include:

1. **Upgrading Model 1 — National Seal of Quality Component Supplier Certification Program.** Automotive consulting and BDS firms will develop a seal of quality that will be sold to firms on a fee basis. Certified components will be sold at mid-market level by participating association wholesalers.

2. **Upgrading Model 2 — OEM Distributor Seal of Quality Component Supplier Certification Program.** Automotive component consulting BDS firms will develop a seal of quality that will be sold to firms on a fee basis. Certified components will be sold at preferential mid-market level by OEM wholesalers.

3. **Upgrading Model 3 — Regional Service Station and Second/Third Tier Supplier Linkage Initiative.** Service stations will develop a brand based on industry standards, verified by an independent accreditation body. Certified suppliers' components will be sold at preferential, mid-market rates at service station branches.

In all three models it is important to note that SENADA serves as the facilitator — building relationships, providing technical assistance and if and where necessary strategically subsidizing costs. Our models are market-driven and our indirect participation in the implementation of the models will not undermine market transactions that may have occurred if we were participating in the upgrading models directly. We will closely monitor, evaluate and document the models' progression, measuring which model(s) are most successful in improving suppliers' access to this higher value, domestic aftermarket. We will conduct a detailed analysis of the progress of our models around June 2008 and SENADA will publish a follow-up report documenting results, best practices, and lessons learned.

4.1 MODEL 1 — NATIONAL SEAL OF QUALITY COMPONENT SUPPLIER CERTIFICATION PROGRAM

Model 1 is based on the development of an industry recognized seal of quality, designed around a market based partnership between respected industry associations, automotive BDS consulting groups, and second and third-tier producers. Key aspects of the basic model include:

- Access to Market. A respected industry association with a high concentration of component wholesalers in its membership will be identified to negotiate preferential market access products that receive the seal of quality certification. Association(s) will be willing to do this because their members should gain access to quality automotive components that they can in turn sell at a higher-value, mid-market segmented market level. Members will be socialized in seal of quality standards and provide input in which products and product standards are selected.

- Seal of Quality. An automotive BDS consulting group will develop and launch the seals of quality for a pre-selected group of high-value, fast moving, common products. The BDS consulting group will develop product and process standards, select testing and evaluation bodies and develop the marketing and branding campaigns for the seal of quality. The BDS firm will

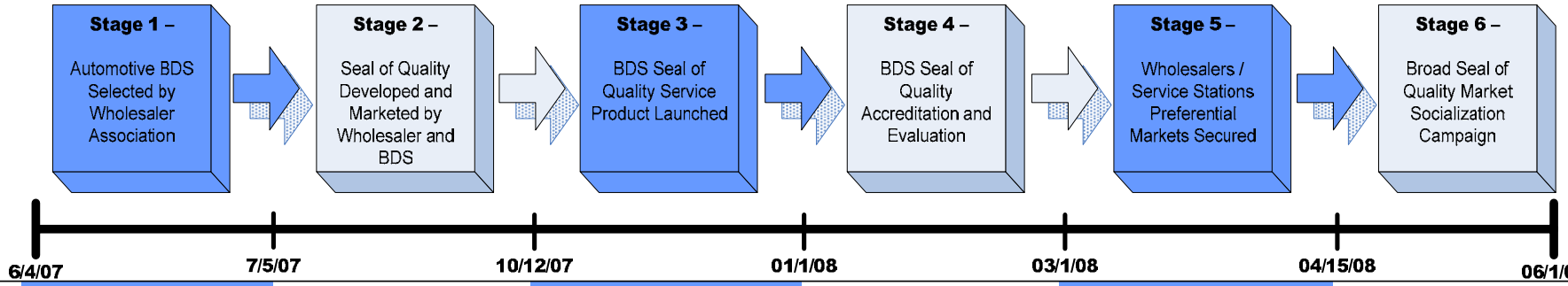
develop the seal of quality as a service product line to be sold at market rates to second and third-tier producers.

- Transfer of Standards. The automotive BDS consulting group along with the association will socialize firms in seal of quality price, value added benefits and standards. The BDS consulting group will identify producers that are willing and able to upgrade to seal of quality product and process standards. Once firms are selected, standards will be transferred and firms will upgrade production processes to meet the seal of quality accreditation standards. Firms will pay the BDS consulting group for the technical consulting services related to the standards transfer and will assume all internal costs of upgrading because they will have secured (upon accreditation) preferential market access for their product lines (by the association).

- Accreditation. The BDS consulting group will select LSPro certified testing bodies endorsed by KAN to carry out accreditation testing based on the pre-determined product specification and testing methodologies stipulated in the seal of quality standards. Firms will apply to the BDS consulting group for accreditation and any endorsed products will receive a seal of quality for their products and brands.

The following page gives a complete overview of ***Upgrading Model 1*** including its primary stages, possible model participants, outputs, challenges and potential value. The model reflected on the next page is as of June 2007 and participants in the model are subject to change.

SENADA AP1 – UPGRADING MODEL #1: NATIONAL SEAL OF QUALITY COMPONENT SUPPLIER CERTIFICATION PROGRAM



	Stage 1 – Automotive BDS Selected by Wholesaler Association	Stage 2 – Seal of Quality Developed and Marketed by Wholesaler and BDS	Stage 3 – BDS Seal of Quality Service Product Launched	Stage 4 – BDS Seal of Quality Accreditation and Evaluation	Stage 5 – Wholesalers / Service Stations Preferential Markets Secured	Stage 6 – Broad Seal of Quality Market Socialization Campaign
Key Milestones	1. ASBEKINDO and SENADA confirms Center of Automotive Indonesia (SOI) as BDS partner for seal of quality development. 2. MOU signed between IATO, SOI, ASBEKINDO and SENADA.	1. SOI Seal of Quality Developed. - Product Selection. - Develop product standards. - Develop process standards. - Select testing and evaluation body. - Select testing / evaluation methods. - Marketing / branding campaign designed.	1. SOI, ASBEKINDO and SENADA socialize firms in seal of quality price, benefits and standards. 2. Producers willing and able to upgrade to seal of quality standards selected. 3. Standards are transferred to selected producers. 4. Technical assistance provided for upgrading.	1. Firms apply for SOI seal of quality. 2. Firms products and processes tested and evaluated for Seal of Quality by evaluation body. 3. Seal(s) of Quality issued.	1. ASBEKINDO wholesaler members socialized in seal of quality price, benefits and standards. 2. Preferential market agreements finalized with interested wholesalers for seal of quality certified parts.	1. "Value" and standards marketed to greater market, especially service stations. 2. Market socialized in SOI and Evaluation Bodies.
Key Players	1. IATO 2. SOI 3. ASBEKINDO 4. SENADA	1. Society of Automotive Engineers (IATO) 2 Center of Automotive Indonesia (SOI) 3. ASBEKINDO 4. SENADA	1. SOI 2. ASBEKINDO 3. SENADA	1. SOI 2. Construction Testing Body (LUK) 3. Center for Materials and Technical Product (B4T) 4. Thermodynamic and Propulsion Engine Certification Body (BTMP)	1. ASBEKINDO 2. SOI 3. SENADA	1. ASBEKINDO 2. SENADA
Key Outputs	1. BDS Seal of Quality Partner Identified and MOU signed. (SOI)	1. Seal of Quality developed. 2. Key product selected. 3. Process / product standards developed.	1. Key 2nd / 3rd suppliers selected. 2. Firms upgrade processes and production to meet standards.	1. Firms certified and receive SOI Seal of Quality.	1. Wholesalers identified for high value SOI certified goods. 2. SOI certified goods sold at higher value.	1. Increased market recognition of SOI Certified goods (in terms of both price and quality).
Potential Challenges	1. Selecting committed BDS partner who is willing and able to launch a seal of quality.	1. Balancing complex business inter-relationships between IATO, ASBEKINDO and SOI.	1. Identifying firms that are willing and able to upgrade to higher SOI standards.	1. Ensuring transactions (between firm, SOI and testing bodies) are secure and price competitive.	1. SOI Seal of quality recognized by ASBEKINDO wholesalers to secure preferential price and market access.	1. SOI Seal of Quality standards recognized by larger market to segment products in higher value, mid market position.
Direct Value Chain Benefit	1. Viable automotive BDS firms identified and socialized.	1. Standards critical to upgrading value chain are developed.	1. Producers process and product standards are upgraded and quality / productivity increased.	1. Producer products verified and evaluated for higher value market segment.	1. Producers access preferential higher value market and prices.	1. Mid-market segment for domestic auto components established.
Indirect Value Chain Benefit	1. Increased industry exposure for ASBEKINDO.	1. Increased industry exposure for ASBEKINDO, IATO and SOI.	1. SOI launches potential profitable Seal of Quality BDS product.	1. Increased industry exposure and profits for market-based testing and evaluation market.	1. Increased industry exposure for ASBEKINDO.	1. Increased (OEM / aftermarket) market realization of benefits of standards and upgrading.

4.2 MODEL 2 — OEM DISTRIBUTOR SEAL OF QUALITY COMPONENT SUPPLIER CERTIFICATION PROGRAM.

Model 2 is very similar to Model 1 and is based on the development of an industry-recognized seal of quality that can be applied to a supplier's brand or unbranded products. The major difference in Model 2 is that instead of working with a business or industry association, this model is designed around a market-based partnership between respected OEM/non-OEM wholesaler or retail outlet, automotive BDS consulting group(s), and second and third-tier producers.

The wholesaler-BDS firm partnership will control seal of quality accreditation, production process, assure product quality, and monitor marketing of the certified product through OEM/wholesaler distribution channels. The seal can be added to unbranded components sold by the wholesaler or be added to wholesaler brands already accepted by after-sales service networks, outlets, and end customers. Key aspects of the basic model include:

- Access to Market. A respected automotive component OEM/independent wholesaler, with strong market presence, will be selected to secure preferential market access for products that receive the seal of quality certification. Wholesalers will get preferential access to higher-quality components that they can sell at higher-value, mid market segment. Wholesalers and partner service stations will be fully marketed in value of the seal of quality standards and have a say in which products and product standards are selected.

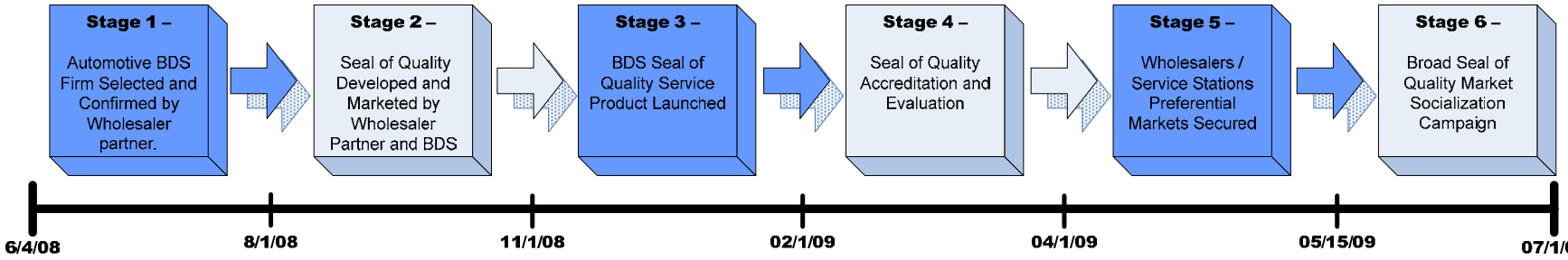
- Seal of Quality. An automotive BDS consulting group (different than in Model 1) will develop and launch the seal of quality for a pre-selected group of high-value, fast moving, common products. The BDS consulting group will develop product and process standards, select testing and evaluation bodies, and develop the marketing and branding campaign for the seal of quality. The BDS will develop the seal of quality as a service product line to be sold at market rates to second and third-tier producers.

- Transfer of Standards. The automotive BDS consulting group and the wholesaler will market firms in seal of quality price, benefits, and standards. BDS consulting group will identify producers that are willing and able to upgrade to seal of quality product and process standards. Once firms are selected, standards will be transferred and firms will upgrade production processes to meet the seal of quality accreditation standards. Firms will pay the BDS consulting group for the technical consulting services related to the standards transfer and will assume all internal costs of upgrading because they will have secured (upon accreditation) preferential market access for their product lines (by the wholesaler).

- Accreditation. The BDS consulting group will select LSPro certified testing bodies endorsed by KAN to carry out accreditation testing based on the pre-determined product specification and testing methodologies stipulated in the seal of quality standards. Firms will apply to the BDS consulting group for accreditation and any endorsed products will receive a seal of quality for their products and brands.

The following page gives a complete overview of ***Upgrading Model 2*** including its primary stages, possible model participants, outputs, challenges and potential value. This model was developed in June 2007, but it should be noted that the "Key Players" are subject to change.

SENADA AP1 – UPGRADING MODEL #2: OEM DISTRIBUTOR SEAL OF QUALITY COMPONENT SUPPLIER CERTIFICATION PROGRAM



Key Milestones	1. OEM / 1st Tier Wholesaler and SENADA confirms a BDS partner for seal of quality development. 2. MOU signed between OEM / 1st Tier Wholesaler, BDS and SENADA.	1. Seal of Quality Developed. - Product Selection. - Develop product standards. - Develop process standards. - Select testing and evaluation body. - Select testing / evaluation methods. - Marketing / branding campaign designed.	1. OEM / 1st Tier Wholesaler, BDS and SENADA socialize firms in seal of quality benefits and standards. 2. Firms willing and able to upgrade to seal of quality standards selected. 3. Standards are transferred to selected producers. 4. Technical assistance provided for upgrading.	1. Firms apply for seal of quality. 2. Firms products and processes tested and evaluated by evaluation team. 3. Seal(s) of Quality issued.	1. Preferential market agreements finalized with Wholesaler for BDS's seal of quality certified parts. 2. Other non-OEM wholesalers identified and socialized in seal of quality Certified goods.	1. "Value" and standards marketed to greater market, especially service stations.
Key Players	1. Indopart 2. BDS (TBD) 3. SENADA	1. Indopart 2. BDS (TBD) 3. SENADA	1. Indopart 2. BDS (TBD) 3. SENADA	1. Indopart 2. BDS (TBD) 3. Accreditation / Evaluation Body(ies) (TBD) 3. SENADA	1. Indopart 2. BDS (TBD) 3. SENADA	1. Indopart 2. BDS (TBD) 3. SENADA
Key Outputs	1. BDS Seal of Quality Partner Identified and MOU signed. (TBD)	1. Seal of Quality developed. 2. Key product selected. 3. Process / product standards developed.	1. Key 2nd / 3rd suppliers selected. 2. Firms upgrade processes and production to meet standards.	1. Firms certified and receive BDS's Seal of Quality.	1. Certified goods sold at higher value in OEM / 1st Tier Wholesaler market. 2. Wholesalers identified for high value certified goods.	1. Increased market recognition of Certified goods (in terms of both price and quality).
Potential Challenges	1. Ensuring OEM / 1st Tier Wholesaler commitment and selecting committed BDS partner who is willing and able to launch a seal of quality.	1. Balancing complex relationships between OEM / 1st Tier Wholesaler and BDS to ensure independence.	1. Identifying firms that are willing and able to upgrade to higher standards.	1. Ensuring transactions (between firm, BDS and testing bodies) are secure and price competitive.	1. BDS's Seal of Quality recognized by OEM / 1st Tier wholesalers to secure preferential price and market access.	1. Seal of Quality standards recognized by larger market to segment products in higher value, mid market position.
Direct Value Chain Benefit	1. BDS – OEM partnership developed.	1. Standards critical to upgrading value chain are developed.	1. Producers process and product standards are upgraded and quality / productivity increased.	1. Producer products verified and evaluated for higher value market segment.	1. Producers access preferential higher value market and prices (OEM and Aftermarket).	1. Mid-market segment for domestic auto components established.
Indirect Value Chain Benefit	1. OEM / 1st Tier Wholesaler extends investment into automotive component BDS industry.	1. Increased socialization of workable OEM – BDS partnerships.	1. Infinite launches potential profitable Seal of Quality BDS product.	1. Increased industry exposure and profits for market-based testing and evaluation market.	1. Increased industry exposure for Infinite Consulting.	1. Increased (OEM / aftermarket) market realization of benefits of standards and upgrading.

4.3 MODEL 3 — REGIONAL SERVICE STATION AND SECOND/THIRD TIER SUPPLIER LINKAGE INITIATIVE

Model 3 is based on the development of an industry recognized service center branded product line brand based on higher-value product standards. In this model, the market acceptance level of the product should be very strong given that service centers' ability to influence consumer buying behavior at the point of transaction. Based on the results of SENADA's recent brand and seal of quality awareness survey, product selection by consumers influenced by repair shop technician's recommendation occurs in almost 76 percent of all transactions. Unlike seals of quality that are virtually unknown by the aftermarket, Indonesian consumers readily recognize and trust brands that are recommended by their service center. Service centers are also direct retail outlets, thus they can provide feedback directly to the producer for product improvement based on consumer needs.

The service center will control brand accreditation, production process, assure product quality, and monitor marketing of the certified product through the entire distribution channel. The service center may also outsource the accreditation of standards and processes to a pre-selected BDS. The branded products will be sold in after-sales service networks and outlets. Key aspects of the basic model include:

- Access to Market. A respected service center, with strong market presence, will be selected to launch (or add products to an existing brand) a brand that will give preferential market access to higher-value, mid-market segment component suppliers.

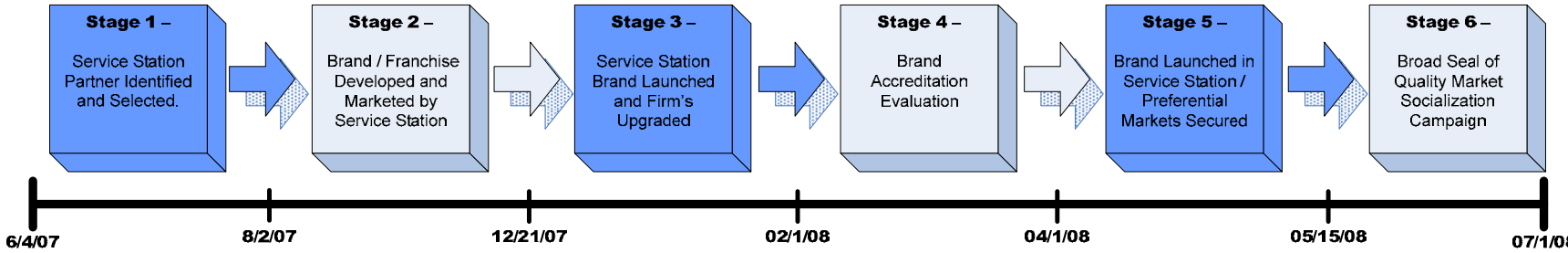
- Brand. The service center will strengthen and or launch the brand for a pre-selected group of high-value, fast-moving, common products and will develop product and process standards, select testing and evaluation bodies and brand marketing campaigns. The service center may also outsource the development of the standards and processes to a pre-selected BDS provider.

- Transfer of Standards. The service center, possibly with an outside BDS provider, will market firms in brand benefits and standards and select firms willing and able to upgrade to the brand's product and process standards. Once firms are selected, standards will be transferred and firms will upgrade production processes to meet the brand's standards. Firms will pay the service center or BDS consulting group for the technical consulting services related to the standards transfer and will assume all internal costs of upgrading because they will have secured (upon accreditation) preferential market access for their product lines (by the wholesaler).

- Accreditation. The service center may (if its deems necessary) select LSPro-certified testing bodies endorsed by KAN (National Accreditation Committee) to carry out accreditation testing for its brand based on the pre-determined product specification and testing methodologies. The service center may also outsource the accreditation of standards and processes to a BDS.

The schematic on the following page gives a complete overview of ***Upgrading Model 3*** including its primary stages, possible model participants, outputs, challenges and potential value. The model reflected on the next page is as of May 2007 and participants in the model are subject to change.

SENADA AP1 – UPGRADING MODEL #3: REGIONAL SERVICE STATION AND 2ND/3RD TIER SUPPLIER LINKAGE INITIATIVE



Key Milestones	1. SENADA identifies service station that is willing and able to partner for brand development. 2. MOU signed between SENADA and Service Station.	1. Service Station Brand Developed. - Product selection. - Develop product standards. - Develop process standards. - Select testing and evaluation body. - Select testing / evaluation methods. - Marketing / branding campaign designed.	1. Service station and SENADA promote brand to manufacturers / suppliers. 2. Service station suppliers willing and able to upgrade to brand standards selected. 3. Service Station standards are transferred to selected producers / suppliers. 4. Technical assistance provided for upgrading.	1. Suppliers apply service standards of Service Station's brand. 2. Firms products and processes tested and evaluated by evaluation team / service center. 3. Service Station's Brand issued.	1. Service station and SENADA market brand to market. 2. Non-OEM aftermarket wholesalers identified and socialized in service station's branded goods.	1. Service Station's Brand "value" and standards marketed to greater value chain, especially other service stations, suppliers and / or wholesalers.
Key Players	1. SENADA 2. Konjaya group	1. Konjaya group 2. BDS / SOI (TBD) 3. SENADA	1. Konjaya group 2. BDS / SOI (TBD) 3. SENADA	1. Konjaya group 2. BDS / SOI (TBD) 3. SENADA	1. Konjaya group 2. SENADA 3. Additional wholesalers (TBD)	1. Konjaya group 2. SENADA 3. Additional wholesalers (TBD)
Key Outputs	1. Service station partner in BG & JK identified and MOUs signed.	1. Key product selected. 2. Process / product standards developed. 3. Service Station's Brand designs developed / launched.	1. Key 2nd / 3rd suppliers selected. 2. Firms upgrade processes and production to meet Service Station's brand standards.	1. Firms certified and receive approval to sell under Service Station's branded product name.	1. Service Station Branded goods sold at higher value in aftermarket. 2. Other markets identified for high value service station branded goods.	1. Increased market recognition of branded goods (in terms of both price and quality).
Potential Challenges	1. Ensuring service station commitment and is willing and able to launch a industry standard brand.	1. Balancing complex relationships between service station and their suppliers.	1. Identifying firms that are willing and able to upgrade to higher product and process standards.	1. Ensuring transactions (between suppliers, service station and testing bodies) are secure and price competitive.	1. Service station brand recognized by market to secure preferential price and market access.	1. Service station brand standards recognized by larger market to segment products in higher value, mid market position.
Direct Value Chain Benefit	1. Opportunity for non-OEM, mid-market brand(s) started.	1. Standards critical to upgrading brand and suppliers are developed.	1. Producers process and product standards are upgraded and quality / productivity increased.	1. Branded products verified and evaluated for higher value market segment.	1. Producers access preferential higher value market and prices (Aftermarket).	1. Mid-market segment for domestic auto components established.
Indirect Value Chain Benefit	1. Service stations socialized in benefits of mid-market brand development.	1. Increased socialization of workable service station – producer partnerships.	1. Service station launches potential profitable brand for its products.	1. Increased industry exposure and profits for market-based testing and evaluation market.	1. Increased industry exposure standard valued branding.	1. Increased aftermarket market realization of benefits of standards and upgrading.

V. EXPECTED RESULTS

The SENADA models are designed with an aim towards creating the largest possible positive systemic affect on the automotive component value chain, namely, increasing competitiveness. Large positive effects can be achieved through a variety of producer-investor partnerships, using a variety of methods, standards, products, and mid-value market entry points. Increased competitiveness is achieved through the development or strengthening of key market linkages cemented around profitable market transactions and co-investments associated with standards-based brands and seal of quality development.

Expansion of industry-based brands and seals of quality, combined with an increase in downstream technology transfer, will upgrade key component suppliers, standardize production, and drive penetration and acceptance of select products sold in Indonesia's expanding mid-value auto-parts aftermarket. Domestic second and third-tier suppliers will increase their competitiveness against imports and OEM products with the help of the value added by branding, thus upgrading their status in the value chain. This will, in turn, better position the second and third-tier firms to capture higher-value market segments. This shift should increase the competitiveness of the automotive component value chain as a whole by furthering the expansion of the mid-value aftermarket, providing additional market access points to producers, increasing the number and capacity of potential producers, and increasing marketing information flows regarding pricing, trends, quality standards, and consumer expectations.

Consequently, each of the SENADA models emphasize upgrading based on industry product standards because it is one of the most effective ways of integrating second and third-tier firms into higher, more profitable segments of the production industry. As the application of these models open market opportunities and link more and more suppliers into a higher-valued production sequences, firms will upgrade capabilities in design and engineering to create the products the mid-value aftermarket demands.

The expected results of the SENADA upgrade models are detailed below, by value chain sector:

- **Producers — Second and Third-Tier.** Producers at these levels will increase their capacity to produce higher quality components that are expected to increase their access to the higher value domestic aftermarket. Their products, sold under recognized brands, or seals of quality, will be accepted by retailers and wholesalers and will receive higher value. This should provide enough market incentive to upgrade producers further away from the hyper-price sensitive bottom-tier of the aftermarket. Production and management upgrading, through integration of product and process standards and increased access to upstream technology transfer will occur and capacity of second/third-tier suppliers to access OEM suppliers may also increase.

  Producers will also have stronger, more market driven industry business support services and consulting, especially in the areas of brand development, marketing and standards accreditation that will diffuse some of the risk and investment associated with upgrading production capacity for higher-value markets. Producers will access more information and have increased market incentives to upgrade equipment, staff, skills and production.

- **Producers — First-Tier.** First tier producers will benefit by an increased downstream movement of technology, skills, and techniques that will standardize production, reduce prices, and increase quality of manufacturing at the second-tier supplier level. If market incentives continue to drive

upgrading across this sector, first-tier manufacturers (assembly and parts) could greatly increase their access to a wider selection, and greater volume of domestically supplied components.

- **Retailers/Wholesalers.** Retailers and service stations will gain access to a new mid-market brand(s) that they can offer to their customers at a higher value. Given their integration into the brand and seal of quality development and accreditation process, they will already trust and value the suppliers providing the components thus reducing the need, and therefore the cost, of doing significant due diligence for supplier selection. Retailers may, in some cases, strengthen their own brands though their association with the seals of quality development and demand higher market share for their products. Participating service stations will also gain specific access to quality products that they will sell at mid-value rates under their own, or shared brands. New product lines will increase overall service center brand's value and provide customers with more reasons to buy their services. Service stations will strengthen their market position and increase value added (price, standards, market position) of services and products to allow for better niche market positioning.

- **Related Service Industries — BDS and Consulting Service Providers.** BDS technical and consulting support providers will be deeper integrated into the automotive component value chain by developing market based opportunities to provide select services to a new tier of manufacturers. Given that BDS provision to second and third-tier manufacturers is still nascent, if the models can ensure that the market transactions for such services (e.g. brand development, technical transfer, marketing, evaluation, accreditation, etc.) are market driven and profitable, they may augment more and more service products for lower tiers of suppliers.

  Seal of quality development and management is an almost completely new service line for BDS providers. It could, if developed profitability, lead to numerous business opportunities. The overall strengthened linkages between BDS providers and second and third-tier manufacturers will further build trust and market awareness that could be leveraged into greater market opportunities, more product and process standardization, and increase upward and down technical transfer.

  LSPros may also strengthen vital testing and accreditation services provided to SMEs and provide much needed extra revenue streams to the LSPros. The increased visibility of the LSPro's efforts to promote higher product standards throughout the industry will also increase awareness of these critical market players. Finally, products with standards recognized by LSPro's will result in higher market visibility for the seals of quality and brands, thus increasing the probability that the certified products will secure higher value market segmentation.

- **Related Support Services — Business Associations and Professional Societies.** Although active within the automotive component value chain, business associations remain relatively low value added in terms of the services and support they provide to their members. Our models are specifically designed to reverse this trend by integrating them more directly into the value chain.

  If successful, associations investing in the seal of quality could gain access to a viable, market-based service that could not only add an important revenue stream to their organizations, but also increase their ability to positively add value to their members and strengthen the industry as a whole. This added value could come in numerous ways including the increased downstream transfer of product and process standards, new market access in the case of wholesaler associations, increased marketing information sharing, and possibly improved regulatory environment through reduction of unnecessary government driven standards.

- **End Market Consumer.** The expansion of a mid-market for select, common, fast moving products, based on value added reliability and safety standards, will give consumers more product choice and selection and reduce the cost of higher quality products.

APPENDIX

I. LIST OF FIRMS CONTACTED OR SURVEYED

PT. Cipta Sinergi Manufaktur
Cimahi, Jawa Barat
Bapak Nanjar
Direktur
Tel.: 022-664-7945

PT. Karya Putra Pahlawan
Cimahi, Jawa Barat
Bapak Sunaryo
Direktur
Tel.: 022-667-3934

PT. Karya Cipta Agung
Bandung, Jawa Barat
Bapak Asep Barnas
Direktur
Tel.: 022-542-1515

ALPA
Bandung, Jawa Barat
Ibu Juliana Jacob
Direktur Marketing
Tel.: 022-540-1356

Konjaya Motor
Bandung, Jawa Barat.
Bapak Windi Kurnia Agust
Direktur
Tel.: 0812-2365-3569

PT. Mada Wikri Tunggal
Cimahi, Jawa Barat
Bapak Panjaitan
Tel.: 022-667-0940

PT. Barkah Jaya Mandiri
Sukabumi, Jawa Barat
Bapak Rachmat
Direktur
Tel.: 026-621-6408

Yayasan Sentra Otomotif Indonesia
Grha Sucofindo, Jakarta
Bapak Adirizal Nizar, Ketua
Tel.: 021-798-6593

Asbekindo
Grha Sucofindo, Jakarta
Bapak Yayat Ruhiyat, Ketua
Bapak Ranu
Sekretaris Executive
Tel.: 0812-999-0381

Ikatan Ahli Teknik Otomotif
Kelapa Gading, Jakarta
Bapak Juwono
Ketua Kompartemen Industri & Standar
Bapak Budi Prasetyo, Sekretaris
Tel.: 021-461-0679

Sucofindo
Grha Sucofindo, Jakarta
Bapak Riko Durmawel
Surveyor
Tel.: 021-798-6676

BPPT-LAB. Uji Konstruksi
Serpong, Banten
Bapak Joko Karmiadji
Kepala Balai
Tel.: 021-707-04823

BPPT- Badan Termodinamika Motor Propulsi
Serpong, Banten
Bapak Prawoto
Kepala Balai
Tel.: 021-756-0539

Badan Standar Nasional
Gatot Subroto, Jakarta
Bapak Gilang Priyadi
Kabag. Pengajuan Standar
Tel.: 021-525-2690

PT. Infinite
Kelapa Gading, Jakarta
Bapak Murbayanto
Direktur
Tel.: 0815-1935-1689

ALS
Bogor, Jawa Barat
Martinus A. Sutanto
Marketing Executive
Tel.: 025-125-3813

INTERTEK
Cikini, Jakarta
N. Tinambunan
Marketing Executive
Tel.: 021-390-5157

II. VALUE CHAIN CATEGORIES [13]

- **Hierarchical, or Vertical Value Chains (a.k.a. Supplier-Driven):** This category of value chain exists where the chain and its governance are aligned within the vertically-integrated nature of a transnational company (for example, where subsidiaries and affiliates respond to orders from headquarters). This is the most traditional type of value chain, most closely approximating deconcentrated forms of foreign direct investment. It is sometimes referred to as supplier-driven.

- **Captive, or Directed Value Chains (a.k.a. Buyer-Driven):** In this case, upstream producers are highly dependant on larger, more sophisticated downstream buyers (lead firms). This is true not only for business transactions and orders, but also for materials, design, technology, etc. Here producers often must commit to transaction specific investment, allowing little flexibility to explore other areas of business. Therefore, switching costs are high for an upstream producer attempting to convert to a new type of business. These upstream producers, often smaller firms, are, in essence, "held captive" by lead firms. In other value chain literature this category is described as buyer-driven.

- **Relational Value Chains:** This type of value chain refers to a situation where producer firms, given requisite design and production capacity, can negotiate their relations with downstream buyers on a more equitable basis. With a two-way flow of information on such matters as market status, product and process technologies and designs, etc., intra-value chain relationships in this category are characterized by some level of mutual-dependence. A move from captive to relational value chains in other literature (e.g. economics, technology and trade, international business literature) is approximated by the progression from OEM (original equipment manufacturing) to more ODM (own design manufacturing) arrangements.

- **Modular, or Balanced Value Chains:** In this situation, producer firms are less dependent upon lead firms due to flexible production arrangements which allow for generic, less transaction-specific use of equipment, materials, technology, etc. This includes use of modular product architecture and technical standards that reduce component variation and unify component, product and process specifications. This production flexibility lowers switching costs, improving a producer's ability to negotiate value chain relationships with downstream firms.

- **Market-Driven Value Chains:** This type refers to a situation approaching the perfectly competitive market structure often described in microeconomics literature. In this type of value chain there are multiple supply/demand options, and switching costs between partners are low for both parties. In this type of interaction, products are relatively simple and can be built with little input from buyers.

[13] This is an excerpt from: Gereffi, Gary and John Humphries, "The Governance of Global Value Chains." *Review of International Political Economy,* 12:1 February 2005: 78-104. Routledge Publications.